

In the Claims:

What is claimed is:

1. Cancelled.
2. Cancelled.
3. (Currently amended) The compound

(1*R*)-(3-Benzenesulfonylcyclohepta-2,4-dienyloxy)-trimethylsilane;
(1*R*, 2*R*, 3*R*)-3-Benzenesulfonyl-2-methyl-5-phenylsulfanyl-cyclohept-4-enol;
(1*R*,2*R*)-(3-Benzenesulfonyl-2-methyl-5-phenylsulfanyl-cyclohept-4-enyloxy)-trimethylsilane;
(1*R*,2*S*)-3-Benzenesulfonyl-2-methyl-5-phenylsulfanyl-cyclohept-4-enyloxy)-*tert*-butyldimethylsilane;
(1*R*, 2*S*)-2-Methyl-5-phenylsulfanyl-cyclohepta-3, 5-dienol;
(1*R*,2*R*)-*tert*-Butyldimethyl-(2-methyl-5-phenylsulfanyl-cyclohepta-3,5-dienyloxy)-silane;
(1*S*, 2*S*, 7*S*)-2,7-Dimethyl-4-phenylsulfanyl-cyclohepta-3,5-dienol;
(1*S*, 2*S*, 7*S*)-4-Benzenesulfonyl-2,7-dimethyl-cyclohepta-3,5-dienol;
(1*S*,2*S*,7*S*)-(4-Benzenesulfonyl-2,7-dimethyl-cyclohepta-3,5-dienyloxy)-*tert*-butyldimethylsilane;
(1*S*,2*R*,7*S*)-2-Dimethylaminomethyl-7-methyl-4-phenylsulfanyl-cyclohepta-3,5-dienol;
(1*S*, 2*S*, 3*R*, 4*R*, 5*S*)-7-Benzenesulfonyl-3,5-dimethyl-cyclohept-6-ene-1,2,4-triol;
(1*S*,2*S*,5*S*,6*R*,7*S*)-3-Benzenesulfonyl-6-(*tert*-butyldimethylsilyloxy)-5,7-dimethyl-cyclohept-3-ene-1,2-diol;
(1*S*, 2*S*, 3*R*)-Acetic acid 3-benzenesulfonyl-2-methyl-5-oxocycloheptylester;
(1*E*,3*Z*,5*R*,6*S*)-2-(*tert*-Butyldimethylsilyloxy)-5-methyl-6-triisopropylsilyloxy-cyclohepta-1,3-diene;
~~(1*R*,2*R*,3*S*,5*S*,8*E*)-9-(*tert*-Butyldimethylsilyloxy)-2-methyl-3-triisopropylsilyloxy-6,7-dioxabicyclo[3.2.2]non-8-ene;~~
1*R*,2*R*,3*R*,4*S*,6*S*)-7-(*tert*-Butyldimethylsilyloxy)-2,3-dihydroxy-4-methyl-5-triisopropylsilyloxy-cycloheptanone;
(1*R*,2*R*, 3*R*, 4*S*, 6*S*)-7-(*tert*-Butyldimethylsilyloxy)-2-hydroxy-3-methoxy-4-methyl-5-

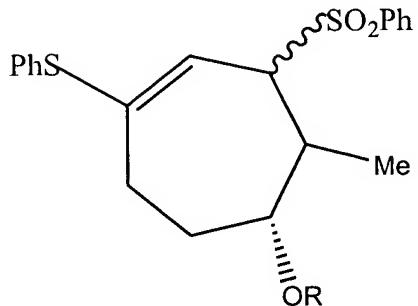
triisopropylsilyloxyheptanoic acid methyl ester;
(2*S*, 4*S*, 5*R*, 6*R*)-2-(*tert*-Butyldimethylsilyloxy)-6-methoxy-5-methyl-7-oxo-4-triisopropylsilyloxyheptanoic acid methyl ester;
(1*R*, 5*S*, 6*R*, 7*S*)-3-Benzenesulfonyl-6-(*tert*-butyldimethylsilyloxy)-5,7-dimethylcyclohept-3-enol;
(1*S*, 5*S*, 6*R*, 7*S*)-3-Benzenesulfonyl-6-(*tert*-butyldimethylsilyloxy)-5,7-dimethylcyclohept-2-enol;
(1*S*, 5*S*, 6*R*, 7*S*)-3-Benzenesulfonyl-6-(*tert*-butyl-dimethylsilyloxy)-5,7-dimethylcyclohept-3-enol;
(1*S*, 4*S*, 5*R*, 6*R*, 7*S*)-2-Benzenesulfonyl-5,7-bis-(*tert*-butyldimethylsilyloxy)-4,6-dimethylcyclohept-2-enol;
(3*S*, 4*R*, 5*R*, 6*S*, 7*S*)-1-Benzenesulfonyl-4,6-bis-(*tert*-butyldimethylsilyloxy)-7-methoxy-3,5-dimethylcycloheptene;
(2*S*, 3*S*, 4*R*, 5*S*, 6*R*)-3,5-Bis-(*tert*-butyldimethylsilyloxy)-2-methoxy-4,6-dimethyl-7-oxoheptanoic acid methyl ester;
(1*S*, 4*S*)-3-Benzenesulfonyl-4-methylcyclohept-2-enol;
(3*S*, 7*S*)-1-Benzenesulfonyl-3-methoxy-7-methylcycloheptene; or
(*S*)-4-Methylcyclohept-2-enone.

4. (Previously presented) A compound of claim 12, wherein the compound is produced by oxidation of dienylsulfides through addition of an oxidizing agent.

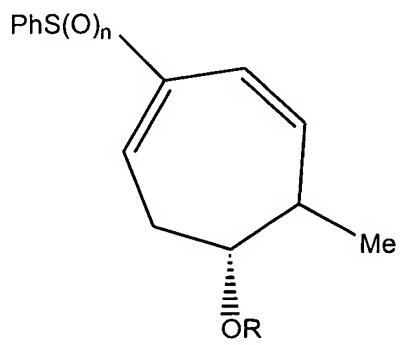
5. (Previously presented) A compound of claim 12, wherein the compound is made by a process in which reaction of allyl sulfones with TMS triflate and an amine in a solvent at reflux effects regiospecific elimination to yield dienylsulfides; the dienylsulfides are oxidized through addition of an oxidizing agent; and wherein the entire process optionally can be performed in a single pot.

6. (Currently amended) A compound of claim 12, wherein the compound is made by:

(a) reacting allyl sulfones of the formula

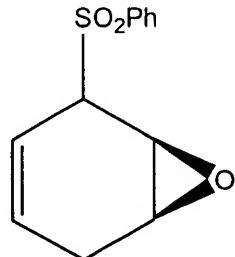


with TMS triflate and an amine in a solvent, at reflux to yield a dienylsulfide of the formula



and oxidizing the dienylsulfide with an oxidizing agent where R is C₁-C₅ alkyl, phenyl, substituted phenyl, vinyl, alkynyl, trimethylsilyl or t-butyldimethylsilyl ~~and wherein the reaction can be done one pot or in steps.~~

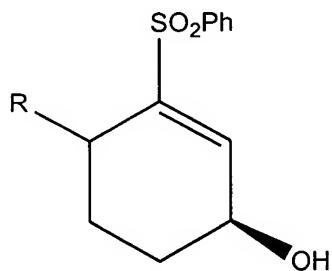
7. (Previously presented) A compound of claim 12, wherein the compound is made by alkylating an epoxyvinylsulfone of the formula



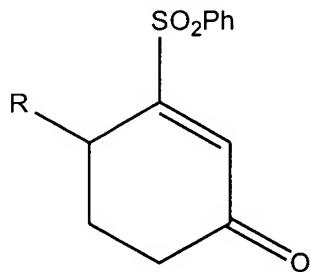
in a reaction medium comprising (R)₂CuLi and a solvent, where R is a C₁ to C₅ alkyl and

wherein the reaction optionally can be performed in a single pot.

8. (Previously presented) A compound of claim 12, wherein the compound is made by oxidizing an allylic alcohol of the formula



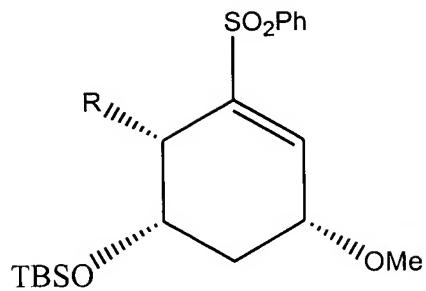
where R is a C₁ to C₅ alkyl, phenyl, substituted phenyl, vinyl, alkynyl, trimethylsilyl or t-butyldimethylsilyl to yield a β -sulfonyl enone of the formula



wherein the β -sulfonyl enone is subjected to Michael addition of heterocuprates and subsequent β -elimination of sulfinate, and

wherein the reactions optionally are performed in a single pot.

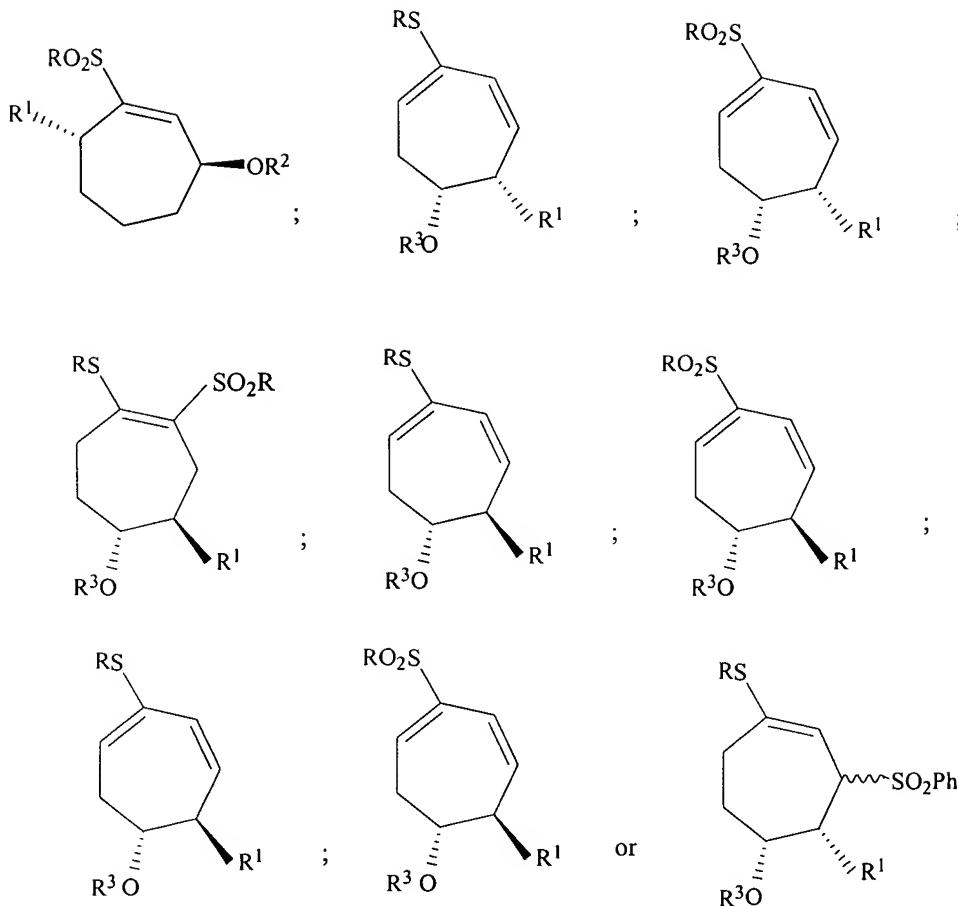
9. (Previously presented) A compound of claim 12, wherein the compound is made by reacting a sulfone of the formula



where R is a C₁ to C₅ alkyl, phenyl, substituted phenyl, vinyl, alkynyl, trimethylsilyl or t-butyldimethylsilyl with one or more alkyl halides.

10-11. Cancelled.

12. (Currently amended) A compound selected from compounds of the formulae:



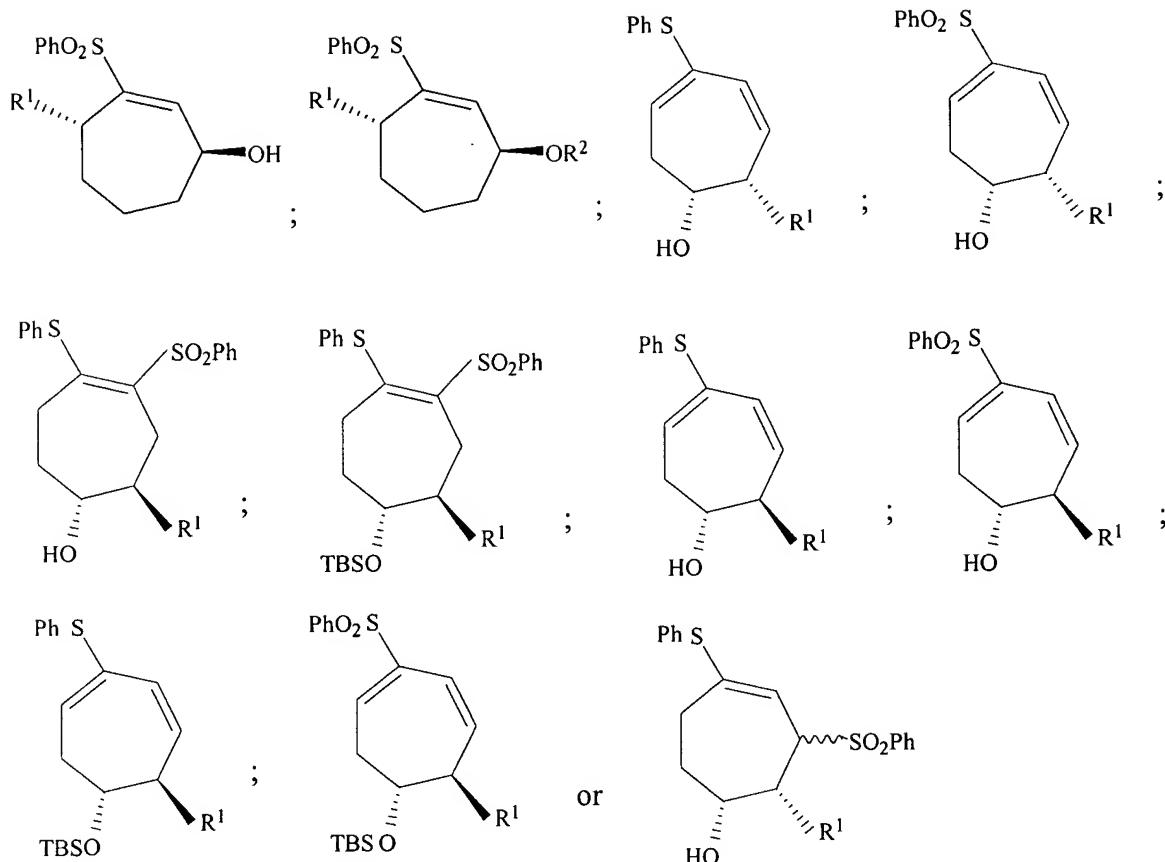
wherein:

R^1 is a C_1 - C_5 alkyl group;

R^2 and R^3 are independently selected from H, a C_1 - C_4 alkyl group or a blocking group; and

R is a phenyl or substituted phenyl group wherein the substituted phenyl group is substituted in one instance at the ortho, meta or para position of the phenyl group with a C_1 - C_4 alkyl group, a halogen (F, Cl, Br, I) a nitro group, an amine, hydroxyl, a C_1 - C_4 alkyl ester, a C_1 - C_4 alkylether or acyl group, and stereoisomers thereof.

13. (Previously presented) A compound of claim 12, wherein the compound is selected from compounds of the formulae:



and stereoisomers thereof.

14. (Previously presented) A compound according to claim 5 wherein said amine is an organic amine.

15. (Previously presented) The compound according to claim 5 wherein said amine is triethylamine and said solvent is methylene chloride.

16. (Previously presented) The compound according to claim 5 wherein said oxidizing agent is a peroxide oxidizing agent.

17. (Previously presented) The compound according to claim 16 wherein said oxidizing agent is meta-chloroperbenzoic acid (*m*CPBA).

18. (Previously presented) The compound according to claim 6 wherein said amine is triethylamine and said solvent is methylene chloride.

19. (Previously presented) The compound according to claim 6 wherein said oxidizing agent is meta-chloroperbenzoic acid (*m*CPBA).

20. (Previously presented) The compound according to claim 18 wherein said oxidizing agent is meta-chloroperbenzoic acid (*m*CPBA).

21. (Previously presented) The compound according to claim 7 wherein said solvent is an ether solvent selected from the group consisting of tetrahydrofuran (THF), diethylether (ET₂O) and mixtures thereof.

22. (Currently amended) The compound according to claim 12 wherein said blocking group is a silyl containing blocking trimethyl silyl group or a tertiarybutyl dimethyl silyl group.

23. (Previously presented) The compound according to claim 22 wherein said blocking group is a trimethyl silyl group.

24. (Previously presented) The compound according to claim 22 wherein said blocking group is a tertiarybutyl dimethyl silyl group.